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ABSTRACT

The argument underlying the ongoing paradigm shift from logical-positivism to constructionism is briefly outlined. A model of evaluation planning, implementation, and management (the P-I-M model) is then presented, which assumes a complementarity between the two paradigms. The P-I-M Model includes three components of educational evaluation: a management information system (MIS), naturalistic evaluation, and rationalistic evaluation. The P-I-M Model of evaluation incorporates the dialectic between logical-positivism and constructionism, and the dialectic between descriptive data and evaluative data. The model implies that for effective decision making within human organizations, both evaluative data and descriptive data are needed. Evaluative data generated by evaluation studies must, therefore, be strengthened by an appropriate MIS that can generate descriptive data concurrently with the process of program implementation. The P-I-M Model, if fully actualized, will enable human organizations to become vibrant "cultures of information" where "informed" decision making becomes a shared norm among all stakeholders. Eight flowcharts are provided to illustrate the P-I-M Model. A 25-item list of references is included. (SLD)

A MODEL OF EVALUATION PLANNING, IMPLEMENTATION AND MANAGEMENT TOWARD A "CULTURE OF INFORMATION" WITHIN ORGANIZATIONS

By

H.S. Bhola

ABSTRACT

The argument underlying the ongoing "paradigm shift" from logical-positivism to constructionism is briefly laid out. A model of evaluation planning, implementation and management (called the P-I-M Model, for short) is then presented that assumes a complementarity between the two paradigms. The model further implies that for effective decision-making within human organizations, both "evaluative data" and "descriptive data" are needed. "Evaluative data" generated by evaluation studies must, therefore, be undergirded by an appropriate management information system (MIS) that can generate "descriptive data" concurrently with the process of program implementation. The P-I-M Model, if fully actualized, will enable human organizations to become vibrant "cultures of information" where "informed" decision-making becomes a shared norm among all stakeholders.

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To evaluate is to value. Evaluation is indeed the process of determining the value or worth of something. Now if human values were absolute and universal, and if our evaluands (that is, the entities we seek to evaluate) were either positively "out there" for everyone to see; or, as concepts, had discreet, invariant and final definitions, the challenge of evaluation would have been merely technical. Evaluation would have been only a problem of design and measurement. That, however, is not the case. The questions of design and measurement have been pre-empted by epistemological questions recently under feverish discussion within the circles of philosophy of science (Bauman, 1978; Berger & Luckman, 1973; Bernstein, 1983; Bleicher, 1981; Popper, 1968). It is in the context of this epistemological debate that references are being made to the "paradigm shift" from old models and approaches to new models and approaches in human inquiry (Lincoln, 1988; Reason & Rowan, 1981).

I

THE PASSING OF THE OLD PARADIGM, AND THE COMING OF THE NEW

Paradigms, defined as the creative ideologies of intellectuals in particular eras in the history of human thought, do not die instant deaths, and the paradigms that do die, do not always get proper burials for years and years. Paradigms of inquiry (and thus of evaluation) come to be part of personal egos and career schemes of individual researchers, and as these paradigms get institutionalized they become part of the complex structures of incentives and disincentives. Particular groups of practitioner begin to both swear and survive by them. As attacks and counter-attacks

are made, positions get hardened. Then, revisions and accommodations may be made on all sides of the argument. The process of resolution may take decades, sometimes centuries.

The same is, of course, true of the paradigm of "logical-positivism" that has dominated the Western academy, and that under the leadership of the West, has mesmerized the world intellectual establishment during the last hundred years or more. It does not mean, of course, that the domination of the paradigm of logical-positivism was always, and everywhere, complete. There were disagreements and dissent, and lot of polemic and ridicule has been heaped on the paradigm, particularly since the end of the Second World War as a new constructionist paradigm was taking shape. The nature and the history of the debate on the paradigm shift from the old to the new has been ably described by Polkinghorne (1983).

ONE NEW PARADIGM OR MORE THAN ONE?

In the preceding discussion, we have talked about the old paradigm of logical-positivism; and then we have talked about a new paradigm. The new paradigm is a bit difficult to label. It can not be called anti-logical because it is not illogical; nor can it be called anti-positivist because it is not against evidence. It can not be called post-logical-positivist because logical-positivism is by no means completely dead and forever gone.

Essentially, the new paradigm is different from the old paradigm in that it accepts multiple realities in place of one single reality, rejects the possibility of separating the knower from the known and value from fact, and rejects as well the possibility of generalization. But then there are several different positions under this general paradigmatic umbrella. Thus, the new Paradigm with a capital "P" is the head

of a whole family of paradigms with lower case "p"'s. In this paper, we have, somewhat arbitrarily, called the logical-positivist paradigm the rationalistic paradigm; and the new "head of the family" Paradigm as the naturalistic paradigm. The paradigms with small "p's" we will call alternative paradigms.

THE DOMINANT PARADIGM: LOGICAL-POSITIVISM

The world view of logical-positivists is that there is one single reality, knowable through sense experience. They see a world patterned in relationships of linear causality. Collective knowledge is built by converting sense data into theory which is perennially under testing. The highest aspiration of logical positivists is to make statements about the world that are true and thereby universally generalizable. Prediction is another important aspiration of logical-positivists. The ultimate hope is that all statements about the universe would be integrated within one single colossal fishnet of universally true understandings.

The core concepts of the paradigm of logical-positivism as its name suggests are sense data, and logical operations on the basis of which generalizations are made. The methodology is based on reductionism whereby complex reality is broken down into independent and dependent variables for study; these variables are subjected to experimental conditions wherein experimental treatment is applied to some variables under control, but not to others; and, finally, statistical methods are used to make normative satements. Criteria of goodness of research are validity and reliability.

THE GENERAL NATURE OF THE ATTACK ON THE OLD PARADIGM

The attack on the dominant paradigm is multi-faceted and fundamental. The new world view is that the world should more correctly be described as being in a state of chaos (Crutchfield, et. al., 1986; Gleich, 1987) and uncertainty rather than as

one amenable to description in law-ike statements of prediction or probability. Further, it assumes a dialectical relationship between subject and object so that the world is both "found" and "made". There are thus multiple realities as individuals each make their own individual constructions of their world. "There is more to seeing than meets the eyeball" (Hanson, 1958:7). Our theories predispose us to seeing one thing rather than another. Thus, theory and data, fact and value, are inseparable each from other. Human logic is not absolute but relative and there are serious limits to human rationality. Intuition is as important as intellect in theorizing.

The aspirations of the believers of the new naturalistic paradigm are not to make law-like statements, but sense-making in this world, in specific social-historical contexts. Not universal generalization but widely usable insights is what is aspired to. All they want to claim for their statements is "warranted assertibility" (Dewey, 1966:101).

Core concepts about knowledge production in the new paradigm are holism, and contextuality. Relativity is, of course, implied but it is not exaggerated. It is not a matter of "anything goes," rather good justification for both assertibility and adequacy are required. At the level of design, the new paradigm talks of emergent design and participative methodologies going through hermeneutic circles. Interpretation of data itself goes through a process of negotiation among various stakeholders (Guba & Lincoln, 1989).

The criteria of goodness of inquiry under the new paradigm are resonance, relevance, credibility, coherence, justness, and trust-worthiness. Objectivity is a "regulative ideal", seen as "a social act of mutual criticism of scientists of each other" (Popper, 1976:103).

SOME ALTERNATIVE PARADIGMS BRIEFLY DEFINED

As we have indicated in the preceding, no one single paradigm has taken the place of the old logical-positivist paradigm. Among the various alternative paradigms that have emerged, there are sometimes subtle and sometimes quite substantial differences. All the alternative paradigms do, however, have one thing in common in that they reject the epistemology of the logical-positivist paradigm. In the following section, we discuss only a few alternatives to present a flavor of the ferment in this area of discussion. The discussion in this section is by no means complete. Readers will notice the absence, for example, of the interpretive, phenomenological and ethnographic paradigms from the discussion below.

CONSTRUCTIONIST PARADIGM.

The constructionist paradigm is so similar to what we have been calling the naturalistic paradigm that those in the constructionist tradition keep on changing labels from constructionist to naturalistic and back to describe their own methodological positions and the work they produce. The core of the constructionist position is that the world does not exist out there but it is in the eye of the beholder, that is, reality is an individual construction. This being the case, their aspiration as inquirers is first to determine individual constructions, and from those to develop collective constructions within particular contexts of communities, subcultures and cultures, without doing violence to the individual contructions entering into such collective constructions; and to describe multiple constructions of reality where one single construction would not make sense in regard to the whole collectivity. The typical evaluation product in this tradition of inquiry is a case study. The typical method is conversation and participative observation. Data analysis is interpretive in which the evaluators'

constructions are negotiated with the perceptions of other participants in the evaluation project. What is aspired to is resonance, relevance, coherence, credibility, and trustworthiness.

CRITICAL THEORY PARADIGM.

Critical theory paradigm is rooted in the sociology of knowledge and is part of the intellectual equipment of French structuralists, cultural Marxists and Feminist theorists all together. Its core contribution is to relate epistemology to history. Thereby, knowledge is seen as historically constructed within a set of social relations. Critical theorists ask that as knowledge producers and knowledge users, we should be critical in two ways: assume an analytical posture that focusses on the consistency in argument, procedure and language; and assume a social posture that is sensitive to the unequal distribution of power in societies. Four ideas are germane to this tradition: (1) scientific rules and criteria are socially-formed; (2) the distinction between objective and subjective are misleading; (3) production of knowledge is also a production of values; and (4) claims of disinterest hide interests (Popkewitz, 1988).

RECONDITIONED LOGICAL-POSITIVISM

Under attack from a whole set of alternative paradigms, logical-positivists have reconditioned their paradigm. In fact, there are hardly any diehards left to defend the classical position of logical-positivism. While logical-positivists do not now pretend that there is a world "out there" and accept the transactional nature of reality, they do ask their attackers that the later learn to distinguish between "what is true" and "what some people believe to be true". There is also the acceptance of the fact that the experiment is not the only true method of doing science but only one way, and that by this way only a special aspect of the reality is revealed. There is also the

acceptance of quasi-experimental and axperimental designs. Connected with the preceding is a new look at statistics. Assumptions of normality are being reviewed. Non-parametric statistics are finding more and more uses.

THE DIALECTIC BETWEEN POSITIVISM AND NATURALISM

Now that the two general paradigms of logical-positivism and constructionism involved in the so-called paradigm shift have been described, the question arises: Do we have to choose between one or the other paradigm as our dogma of inquiry, or is there a possibility of reconciliation between the two paradigms? The answer we propose is this: The two paradigms of logical-positivism and constructionism are at the same time contrastable and compatible.

The two paradigms are clearly contrastable and, therefore, incompatible in the sense that the two separate sets of assumptions underlying the two paradigms can not simply be merged in one list and then used indiscriminately to make decisions about generating questions, developing designs, and constructing instruments and strategies of data analysis and interpretation in relation to the same bounded search for making an assertion on an aspect of reality. On the other hand, the two paradigms are compatible, if we look at them as two different constructions of the world. Constructionists do after all believe in different ways of viewing the world. Why should they not consider logical-positivism as one acceptable construction of the world to make useful and warranted assertions about reality from a paricular vantage point and in a particular context?

Constructionists do indeed talk of the world being both "found" and "made." That gives us the reality of two worlds in one. The world we "find", that is, the world already constructed is quite amenable to positivist assumptions. The world we "make"

through our individual transactions with social reality is best studied by the constructionist paradigm. Cronbach (1982) calls the former "the context of control" and the later "the context of accommodation." Others have made the same point. Comstock in his concept of "critical research" combines both empirical-analytic research and historical-constructionist research and thus "focuses on the dialectical tension between the historically created conditions of action and the actors' understanding of these conditions (Comstock, 1982)."

Firestone (1989) has made the insightful comment that inquirers who find the two paradigms incompatible must think of paradigms as systems of rules connected in a network of deductive operations. Combining separate and contrasting sets of deductively related rules then is, by definition, illogical and most surely absurd. But if, as Firestone suggests, these paradigms are look at as "cultures of research" one can understand how, when brought together in a dialectical relationship, these opposing paradigms can create new emergences from seeming contradictions. He further proposes that we draw upon the "pragmatic tradition" discussed in Giarelli (1988) to understand how praxis -- the actual practice of inquiry -- has compelled compatibilities among paradigms. In a somewhat similar vein, Cook has proposed the idea of "critical multiplism," suggesting "that when it is not clear which of several options for question generation or method choice is "correct," all of them should be selected so as to "triangulate" on the most useful or the most likely to be true." (Cook, 1985:38).

THE DIALECTIC BETWEEN EVALUATIVE DATA AND DESCRIPTIVE DATA

Not only theory, but policy and practice as well are compelling evaluators towards models that assume a dialectic between the rationalistic and the naturalistic

inquiry. In addition, we are learning that in practice decision-makers do not need only "evaluative data" but that they also need "descriptive data" in their decision-making. Indeed, the data most used by policy makers and programmers are descriptive data that give a profile of the program in its process of implementation. Hence the use of a Management Information System (MIS) as the foundation of evaluation planning and management in this model.

After descriptive data, the next most widely used data in everyday decision-making are, of course, qualitative data (sometimes merely impressionistic data) on how the program is being perceived and experienced by those whom the program is supposed to serve. That brings up the importance of doing good naturalistic evaluations. Data on matched-group comparisons, on a group in a "before and after" format, or data on correlations between group characteristics is much more infrequently used by policy makers and even more rarely by program people.

II

THE P-I-M MODEL OF EDUCATIONAL EVALUATION

The model of evaluation planning, implementation and management (P-I-M Model), presented below incorporates the two dialectics discussed above: (1) the dialectic between logical-positivism and constructionism; and (2) the dialectic between descriptive data and evaluative data (Bhola, 1990).

Before presenting the P-I-M Model itself, a conceptual antecedent to the P-I-M Model should be briefly introduced. It is what we have called the Situation-Specific-Strategy approach to evaluation planning, implementation and management. The situation-specific-strategy approach to evaluation delineates five stages: (1) ordering

the world of evaluation and change by conceiving it in terms of systems and networks; (2) articulating the means-ends relationships implicit in the change program to clarify the strategy of change; (3) generating profiles of information needs and evaluation issues through the interaction of the system and the strategy of change; (4) developing a situation-specific evaluation agenda for a particular program at a particular place and time; and (5) choosing methodologies and techniques that are technically appropriate and situationally feasible. (Bhola, 1979:33).

[INSERT GRAPHIC, 1 HERE]

The P-I-M Model of evaluation now presented is nested in the above model and as shown below includes three different components of educational evaluation: (1) management information system (MIS), (2) naturalistic evaluation (NE), and (3) rationalistic evaluation (RE).

[INSERT GRAPHIC, 2 HERE]

THE MIS COMPONENT

In the context of the model, the MIS means a system of information collection, storage and retrieval for use in decision-making. The information so collected will relate to all the four parameters of a program system -- context, input, process, and output. The information collected for the MIS will be such that is generated in the very process of program implementation without having to create any special set of conditions. Such information will also be selective and will use the criteria of necessity and sufficiency. The nature of this information will be descriptive, that is, usable for describing the size and scope of the program. This does not mean, however, that part of this information could not be processed to create evaluative information.

The process of development and utilization of a management information system

is presented in Graphic, 3 below. Graphic, 4, immediately following, focuses on processing and analysis of MIS data.

[INSERT GRAPHICS 3 & 4 HERE]

THE NE COMPONENT

The label "NE", as we have indicated before, has been used to cover the constructionist approach with echoes of the ethnographic and critical theory approaches to evaluation included in it. The essential question under the NE component is: What is happening? The concern is with the meaning of people's experiences with ongoing programs and projects. The dichotomy between the subjective and the objective, and the knower and the known disappears. Participatory methods are used in data collection and interpretations of data are negotiated rather than deduced. The typical evaluation product is a case study full of "thick descriptions."

The essential process of naturalistic evaluation is sketched in Graphic, 5 below. The accompanying Graphic, 6 focusses on data processing and analysis.

[INSERT GRAPHICS 5 & 6 HERE]

THE RE COMPONENT

The RE component in the P-I-M Model anticipates the needs of evaluative data dealing with comparisons and correlations in situations amenable to control. Statements made on the basis of the analysis of RE data are nomothetic.

The two graphics 7 and 8 included below describe the processes of conducting RE studies and of analyzing RE data. The similarities between this set of charts and those included under the MIS component should be noticed. While the two components -- the MIS and the RE -- are mutually congenial, they are by no means fully congruent. The two differ in objectives. The MIS component merely seeks to

describe the size and scope of the program. The RE component seeks to generate evaluative data and works from a sophisticated set of epistemological and statistical assumptions.

[INSERT GRAPHICS 7 & 8 HERE]

THE INTERRELATIONS AMONG MIS, NE AND RE

The MIS is assumed to be the sine qua non of evaluation management in human systems. The second set of data most needed, we assume, will be NE data. RE data will be required more by policy makers than by program people. MIS data will suggest evaluation questions both for NE and RE. In turn, data produced by RE will often become part of the MIS. NE and RE between them will suggest questions to be solved by each other.

A CULTURE OF INFORMATION

Modern societies particularly in the West have been called "information societies" where access and possession of information determines individual status and power and where the availability and utilization of information determines the efficiency and effectiveness of all institutions -- political, economic and social including institutions of religion, education, entertainment and leisure.

Within and organizational context, the "culture of information" means an institutional culture or sub-culture that systematically generates, collects, stores, retrieves and utilizes appropriate information in all processes of decision-making and does so as a matter of course. This would indeed mean that the organization systematically collects and stores descriptive data generated through the very process of implementation of its objectives and programs. It means also that such an organization would generate evaluative data through special evaluation studies appropriaely designed

and timed to be able to judge the value and worth of its various programs and projects. Information within such an organization will flow back and forth horizontally; and will flow vertically across all levels, both up and down the system. Informed decision making will become a universally shared norm.

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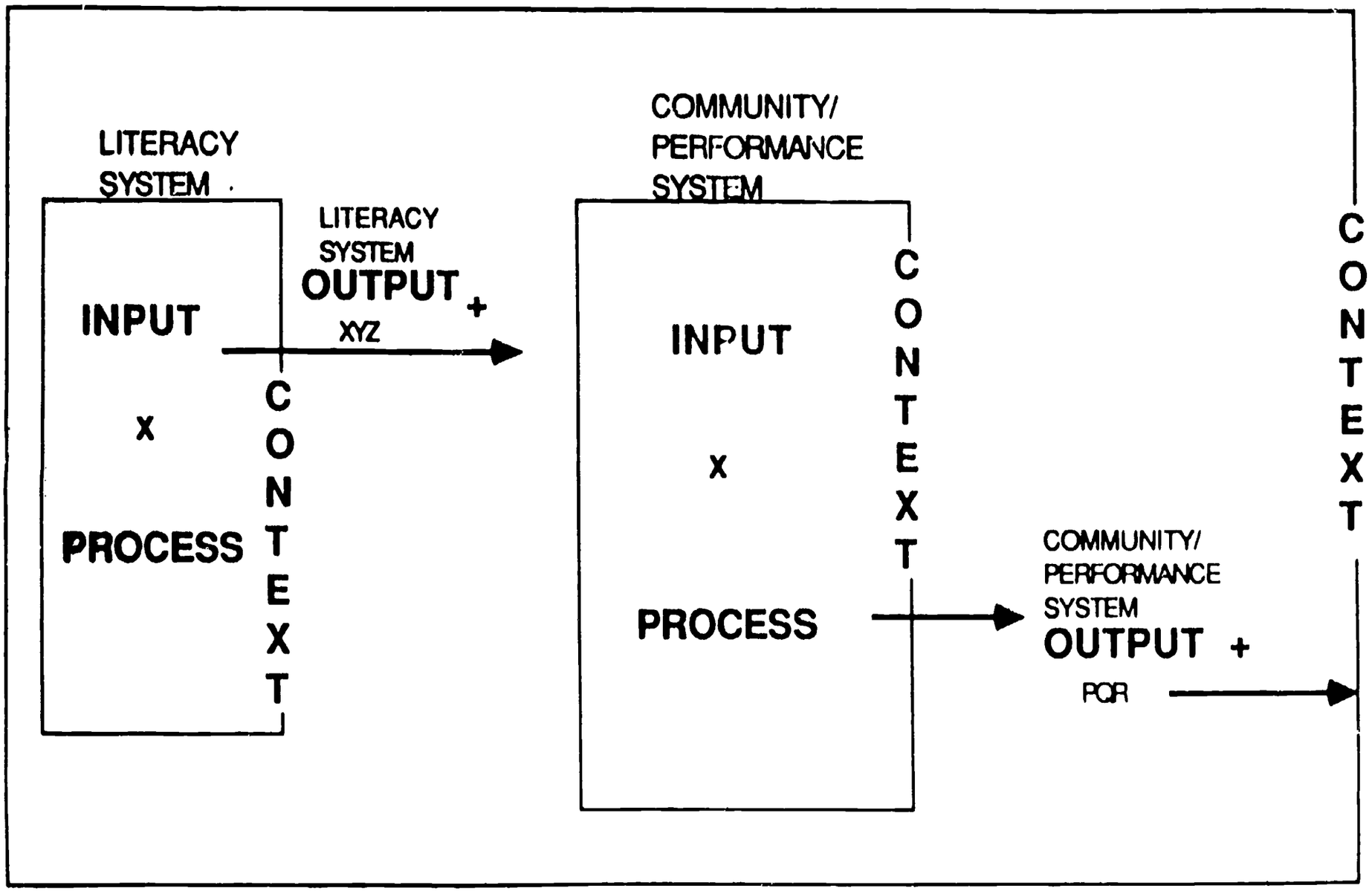


A model for evaluation planning for "literacy for development" initiatives

Bhola, 1990

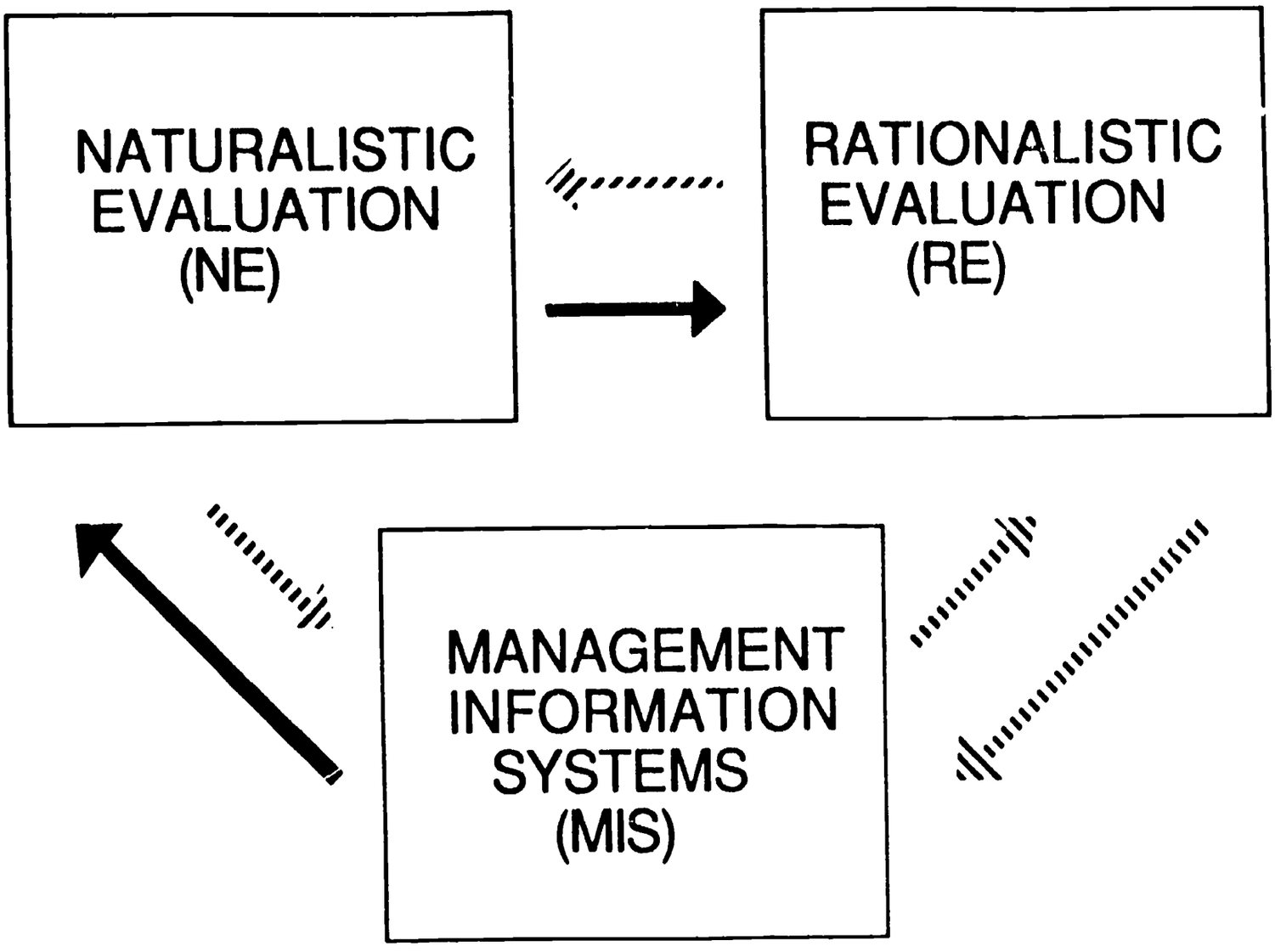
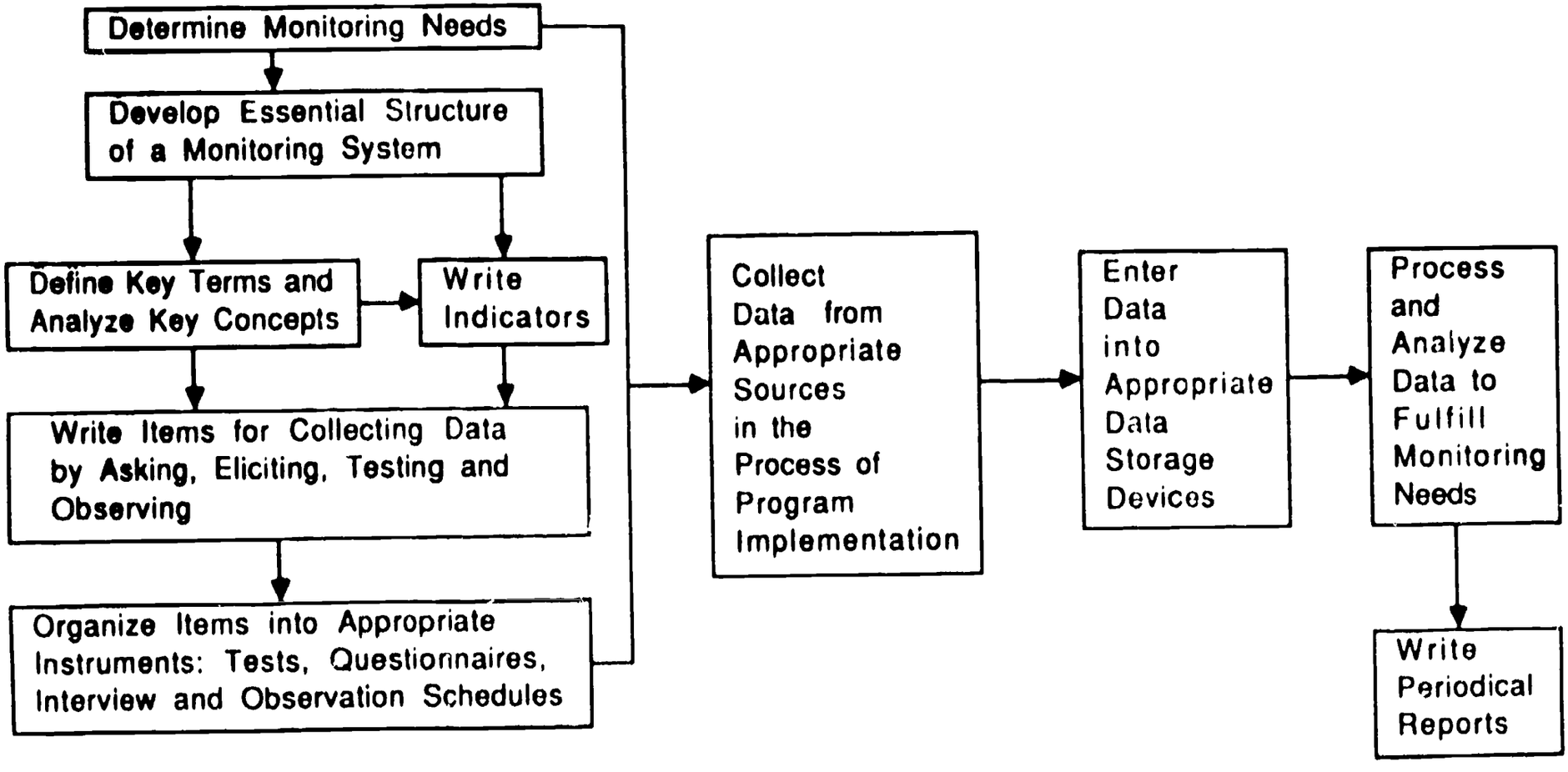


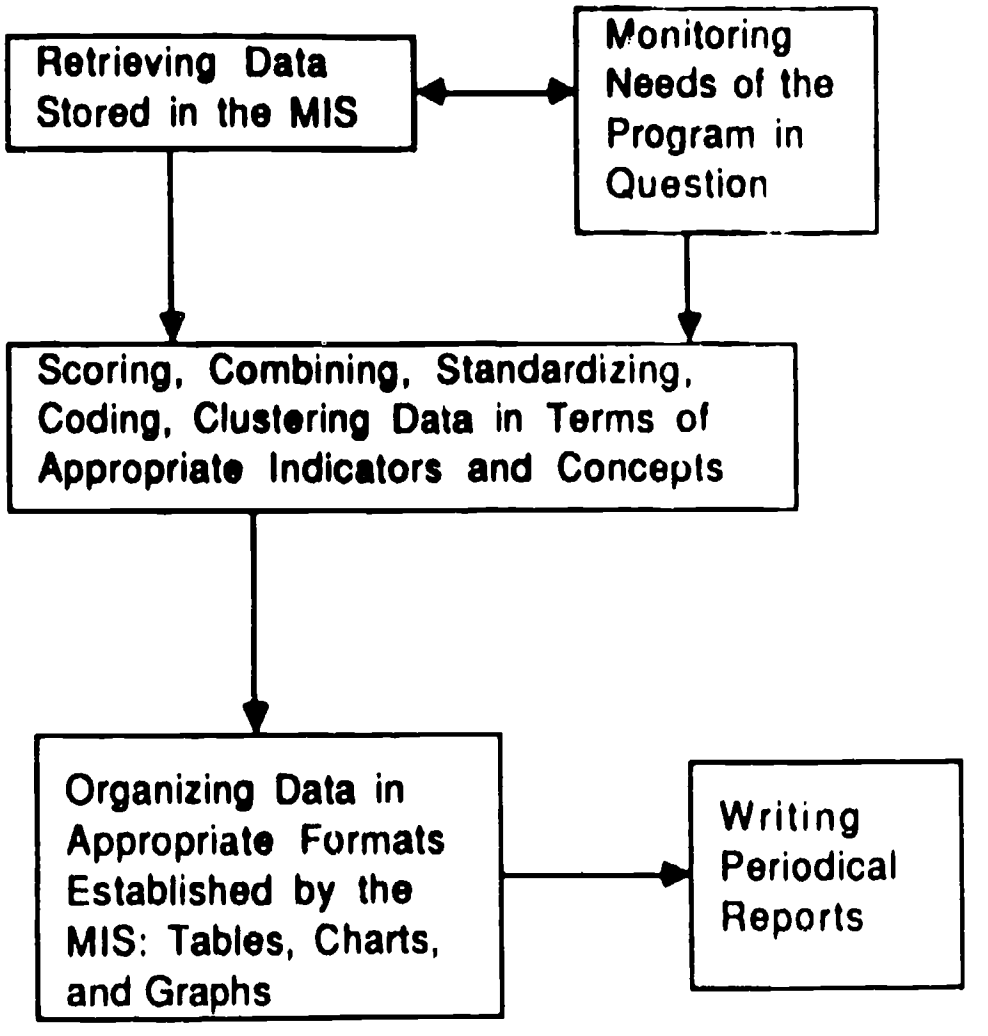
Figure 1: A Model for Evaluation Planning and Management in the Context of Program Implementation and Policy Assessment

The Process of Development and Utilization of a Management Information System (MIS)



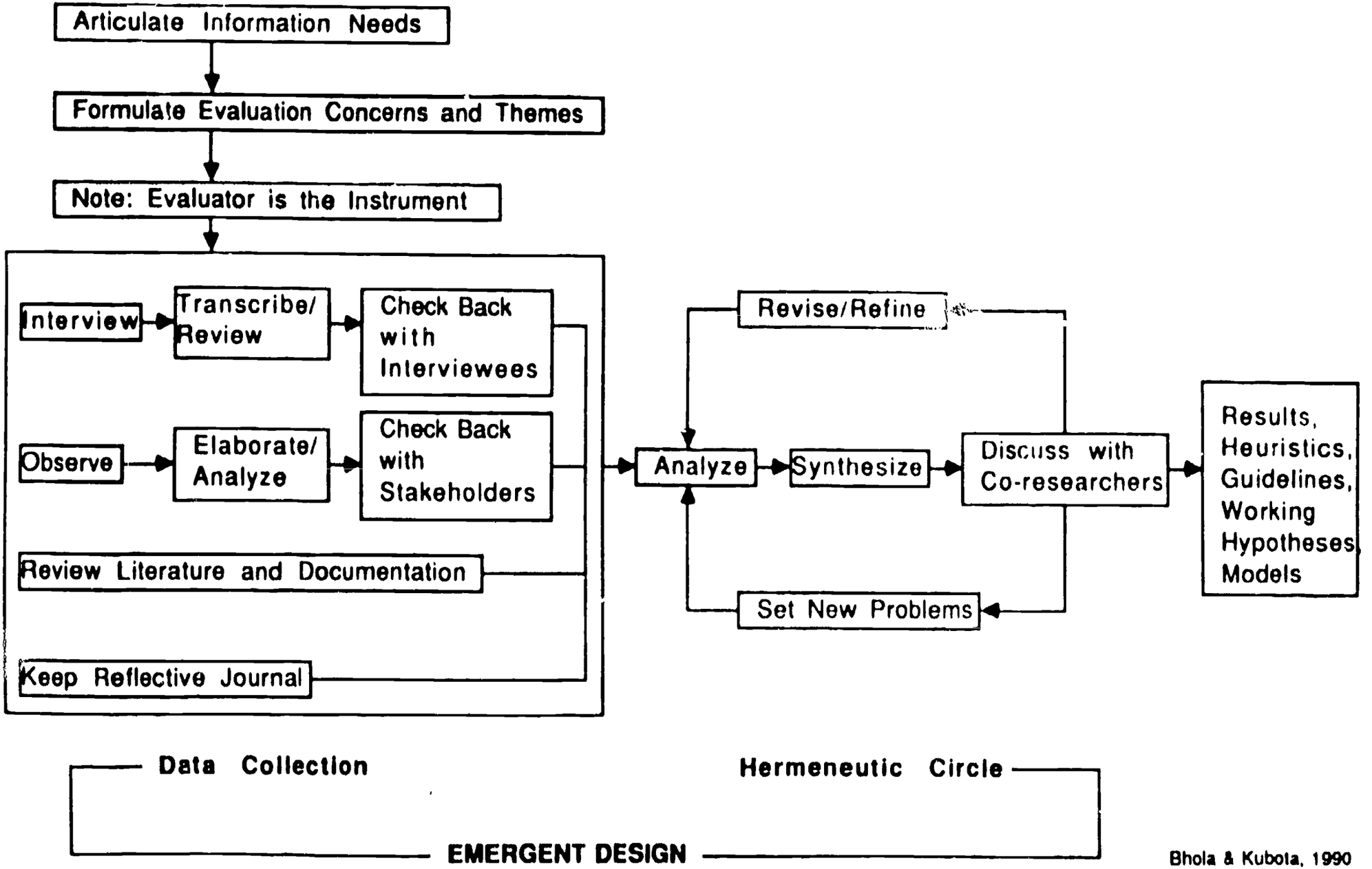
Bhola, 1990

MIS: Focus on Data Processing and Analysis



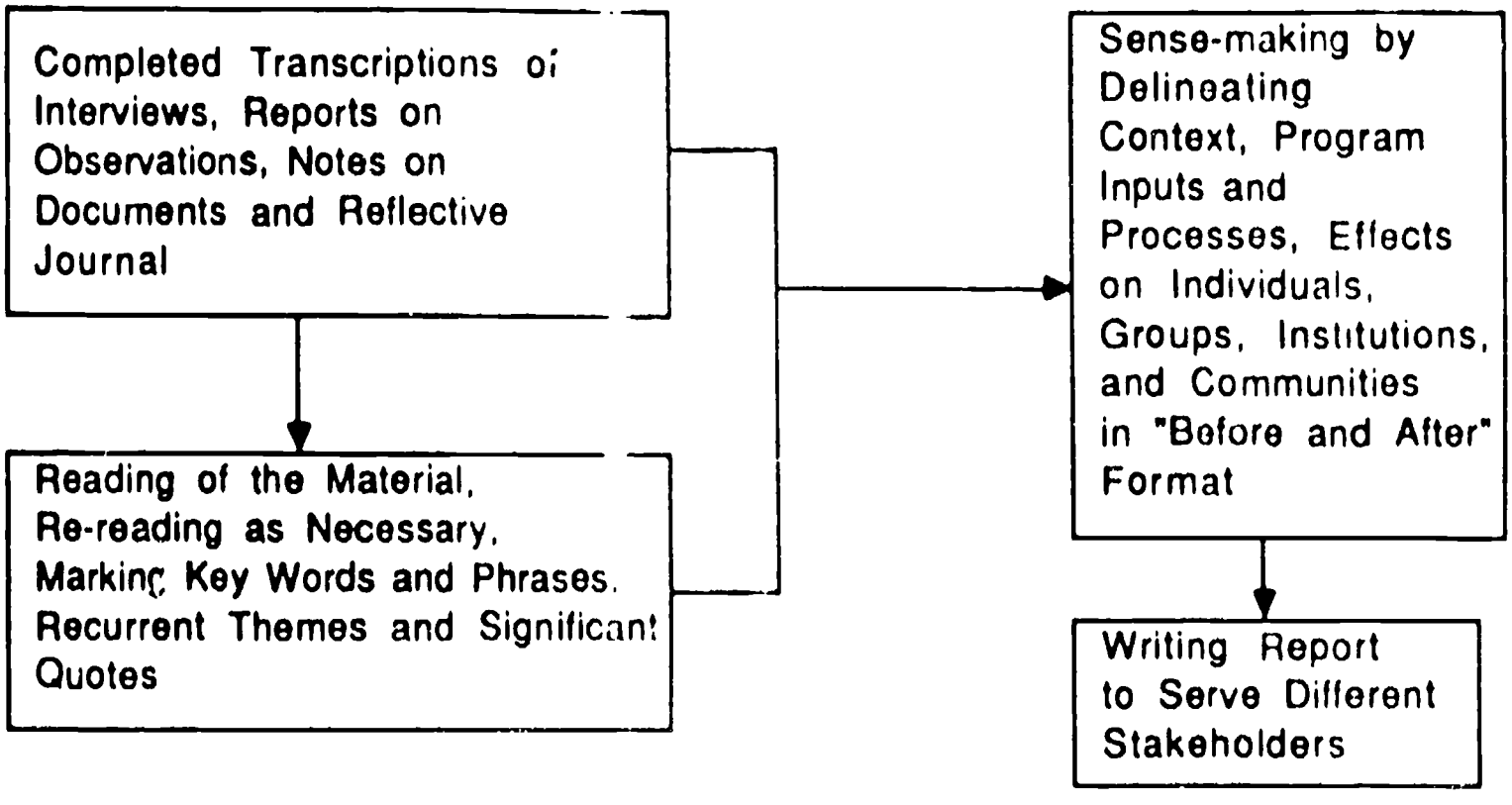
Bhola, 1990

The Process of Naturalistic Evaluation (NE)



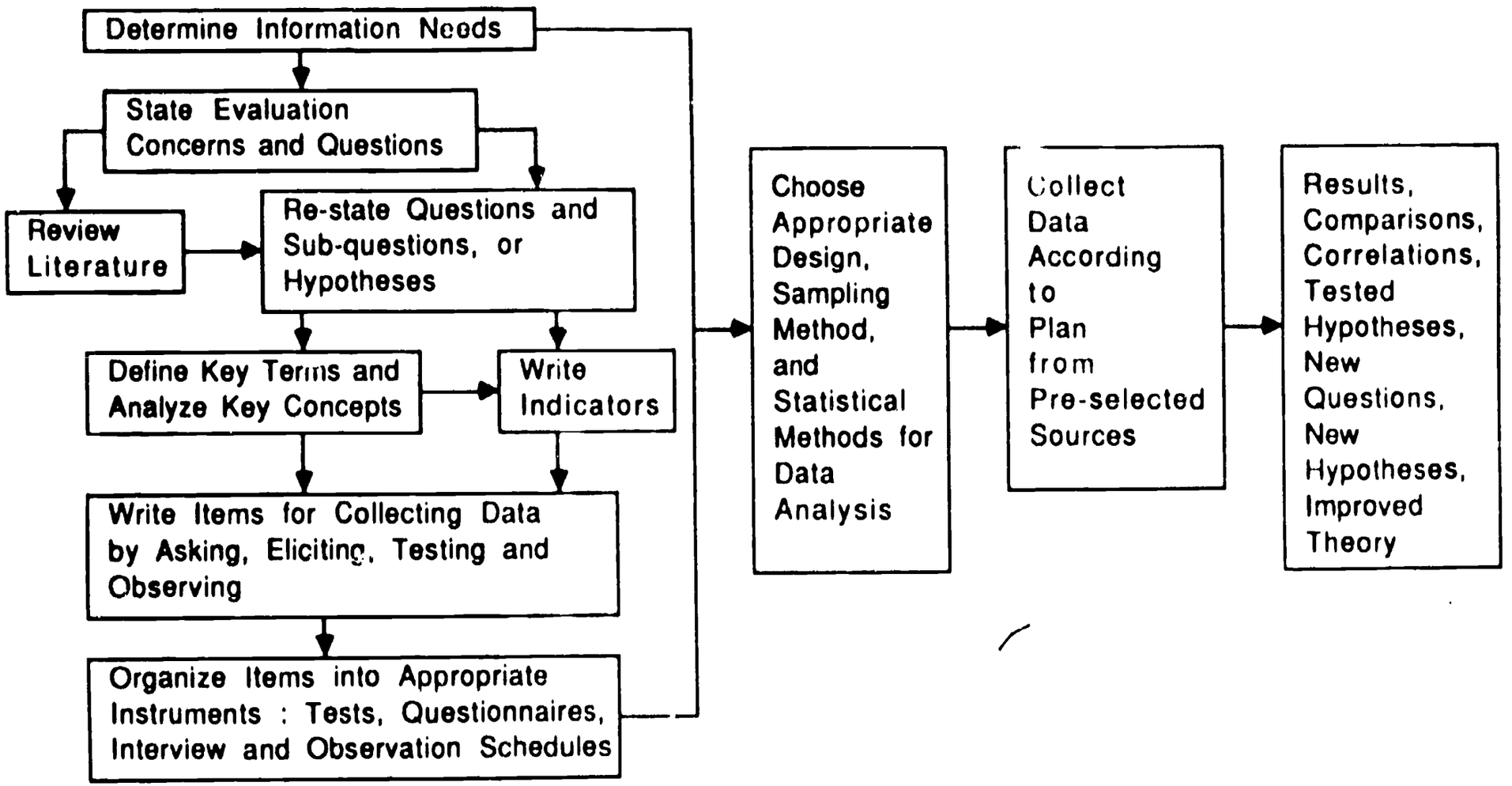
Bhola & Kubota, 1990

NE: Focus on Data Processing and Analysis



Bhola, 1990

The Process of Rationalistic Evaluation (RE)



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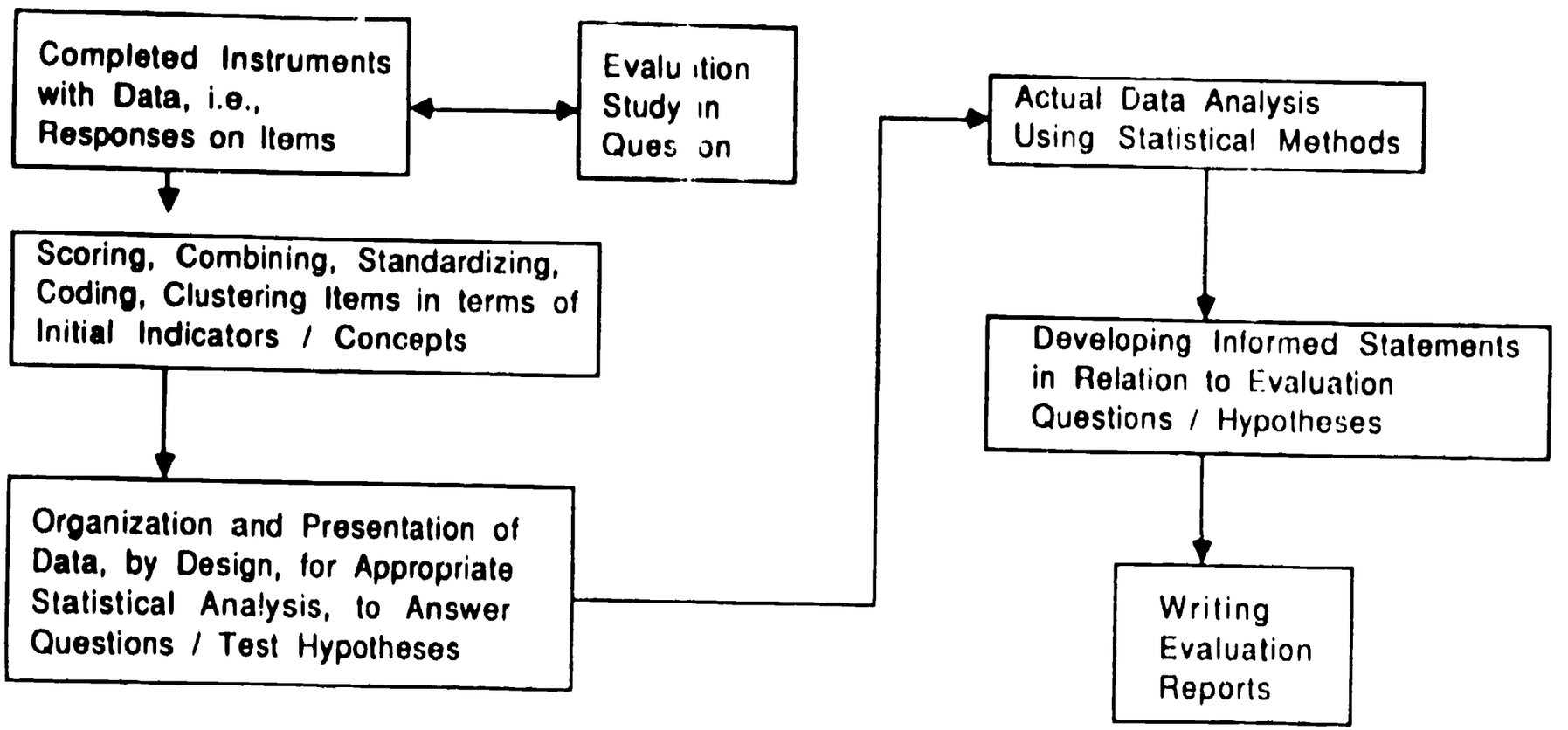
RE: Focus on Data Processing and Analysis



Bhola, 1990